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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER	
CULLER, JILL E	
ART UNIT	PAPER NUMBER
2854	

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/902,722

Applicant(s)

VEGA, RAMON

Examiner

Jill E. Culler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-6 and 8-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6 and 8-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 37-38 and 40 are objected to because of the following informalities:

In claim 37, on line 6, and claim 40 on line 3, the recitation of a "generally conical frustiform configuration" is objected to as "frustiform" has not been used or defined in the specification and although a definition for the word "frustum" is found in the dictionary, this appears to be an uncommon usage of the word.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 5-6, 12-18, 27-28 and 32-34 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,458,211 to Wefers et al.

With respect to claims 1, 12, 15-16 and 18, Wefers et al. shows a device for printing onto a medium, 2, comprising a mesh-like substrate, 1, having multiple holes,

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see column 8, lines 38-42, each of the holes being configured to hold a material, 12, for application onto the medium, 2, wherein the material is a solid, see column 3, lines 56-58, a nozzle, 6, for expelling a fluid to cause the material to be applied onto the medium if the fluid is expelled onto the material by the nozzle, wherein at least one of said nozzle and said substrate is maneuverable such that the nozzle may be disposed substantially directly over at least one of the holes at a time, wherein the nozzle is operable to expel the fluid onto the material in the hole, to thereby cause the material to be applied onto the medium and print an image on the medium. See column 9, lines 46-56.

With respect to claim 27 and 33-34, Wefers et al. shows a device for printing onto a medium, 2, comprising a mesh-like substrate, 1, having multiple holes, see column 8, lines 38-42, each of the holes being configured to hold a material, 12, for application onto the medium, 2, wherein the material is a solid, see column 3, lines 56-58, a scraper, 7, for removing excess material from the mesh-like substrate, See column 8, lines 49-51 and Fig. 1., a nozzle, 6, for expelling a fluid to cause the material to be applied onto the medium if the fluid is expelled onto the material by the nozzle, wherein at least one of said nozzle and said substrate is maneuverable such that the nozzle may be disposed substantially directly over at least one of the holes at a time, such that the material does not make contact with the nozzle, see column 9, lines 14-16 and Fig. 11, and wherein the nozzle is operable to expel the fluid onto the material in the hole, to thereby cause the material to be applied onto the medium and print an image on the medium. See column 9, lines 46-56.

With respect to claims 2-3 and 32, Wefers et al. shows that the substrate comprises a continuous loop in a substantially circular configuration, which could also be called a substantially disc-shaped configuration having a central opening. See column 8, lines 38-42 and Figs. 1.

With respect to claims 5 and 13, Wefers et al. shows a scraper, 7, for removing excess material from the mesh-like substrate. See column 8, lines 49-51 and Fig. 1.

With respect to claim 6 and 28, Wefers et al. teaches that the fluid comprises a liquid or a gas. See column 4, lines 23-24 and column 8, lines 64-66.

With respect to claim 14, Wefers et al. shows maneuvering the substrate such that certain portions are placed under a supply bin to receive the material. See Figs. 11 and 12.

With respect to claim 17, Wefers et al. shows cleaning a substantial portion of any remaining material on the mesh-like substrate in response to the substrate requiring cleaning. See column 12, lines 59-62.

4. Claims 11, 22, and 25-26 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,389,148 to Matsunaga.

With respect to claim 22, Matsunaga shows a device for printing onto a medium comprising a mesh-like substrate, 10, having multiple holes, 12, each of the holes being configured to hold a material, 14, for application onto the medium, 18, wherein the material is a liquid, see column 3, lines 6-12, a nozzle, 20, to expel a fluid to cause the material to be applied onto the medium if the fluid is expelled onto the material by the

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nozzle, a power source connected to the mesh-like substrate to supply electricity to the substrate whereby the material may be held within the hole by a charged attraction between the mesh-like substrate and the material, see column 3, lines 50-53, wherein at least one of the nozzle and the substrate is maneuverable such that the nozzle may be disposed substantially directly over at least one of the holes at a time, wherein the nozzle is operable to expel the fluid onto the material in the hole, to thereby cause the material to be applied onto the medium and print an image on the medium. See column 3, lines 27-32.

With respect to claim 11, Matsunaga shows that the material is configured to be held within the hole by capillary forces. See column 3, lines 12-14.

With respect to claim 25, Matsunaga shows that the density of the material is configured to prevent a substantial portion of the material from penetrating through each of the holes, and the diameter of each of the holes is configured to substantially prevent the material from penetrating therethrough. See column 3, lines 12-14. It should be noted that the capillary action is primarily a function of the diameter of the holes.

With respect to claim 26, Matsunaga teaches a scraper, 79, configured to scrape only one side of the mesh-like substrate. See column 6, lines 9-11.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 8-9, 29-30 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wefers et al. in view of Matsunaga.

Wefers et al. teaches all that is claimed, as in the above rejection of claims 1-3, 5-6, 12-18, 27-28 and 32-34, except that the holes comprise a generally conical configuration or that there is a power source connected to the mesh-like substrate to supply electricity whereby the material may be held within the holes by a charged attraction between the substrate and the material.

Matsunaga shows a device having a mesh-like substrate with holes that comprise a generally conical configuration, see Fig. 4, and a power source connected to the mesh-like substrate to supply electricity whereby the material may be held within the hold by a charged attraction between the substrate and the material. See column 3, lines 50-53.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the invention of Wefers et al. using the conical holes and power source of Matsunaga in order to more consistently retain the material within the substrate.

7. Claims 10 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wefers et al. in view of Matsunaga, as applied to claims 8-9, 29-30 and 35 above, and further in view of U.S. Patent No. 4,205,320 to Fujii.

Wefers et al. and Matsunaga teach all that is claimed, as in the above rejection of claims 8-9, 29-30 and 35, except that the supplied electricity is capable of magnetically charging the substrate so that the material may be held within the hole by a magnetically charged attraction between the substrate and the material.

Fujii teaches a substrate having ink held in the depressions when an electric field is applied to the substrate, creating a magnetic field. See column 6, lines 35-42.

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the teachings of Fujii with the invention of Wefers et al. as modified by Matsunaga to create a magnetic field for holding the material in the substrate in order to better retain the material in the mesh-like substrate.

8. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wefers et al. in view of U.S. Patent No. 5,964,158 to Takahashi.

Wefers et al. teaches all that is claimed as in the above rejection of claims 1-3, 5-6, 12-18, 27-28 and 32-34 except for a computer readable storage medium on which is embedded one or more computer programs which implement a method for printing onto a medium.

Takahashi teaches a computer readable storage medium on which is embedded one or more computer programs which implement a method for printing onto a medium.

It would have been obvious to one having ordinary skill in the art at the time of the invention to implement the method of Wefers et al. using the computer readable

storage medium as taught by Takahashi in order to be able to readily implement and control the process with a computer.

9. Claims 23 and 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsunaga in view of U.S. Patent No. 4,205,320 to Fujii.

With respect to claim 23, Matsunaga teaches all that is claimed, as in the above rejection of claims 11, 22, and 25-26, except that the supplied electricity is capable of magnetically charging the substrate so that the material may be held within the hole by a magnetically charged attraction between the substrate and the material.

Fujii teaches a substrate having ink held in the depressions when an electric field is applied to the substrate, creating a magnetic field. See column 6, lines 35-42.

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the teachings of Fujii with the invention of Matsunaga to create a magnetic field for holding the material in the substrate in order to better retain the material in the mesh-like substrate.

With respect to claims 37-40, Matsunaga shows a device for printing onto a medium comprising a mesh-like substrate, 10, having multiple holes, 12, wherein the substrate comprises a substantially disc-shaped configuration having a central opening, see column 6, lines 28-34 and Figure 7, each of the holes being configured to hold a material, 14, for application onto the medium, 18, each of the holes comprising a generally conical configuration, see Fig. 4, a nozzle, 20, to expel a fluid to cause the material to be applied onto the medium when the fluid is expelled onto the material by

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the nozzle, wherein at least one of the nozzle and the substrate is maneuverable such that the nozzle may be disposed substantially directly over at least one of the holes at a time, wherein the nozzle is operable to expel the fluid onto the material in the hole, to thereby cause the material to be applied onto the medium and print an image on the medium, see column 3, lines 27-32, further comprising a power source connected to the mesh-like substrate to supply electricity to the substrate whereby the material may be held within the hole by a charged attraction between the mesh-like substrate and the material, see column 3, lines 50-53, wherein the material is a liquid, see column 3, lines 6-12, and is configured to be held within the hole by capillary forces. See column 3, lines 12-14.

Matsunaga does not teach that the supplied electricity is capable of magnetically charging the substrate so that the material may be held within the hole by a magnetically charged attraction between the substrate and the material.

Fujii teaches a substrate having ink held in the depressions when an electric field is applied to the substrate, creating a magnetic field. See column 6, lines 35-42.

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the teachings of Fujii with the invention of Matsunaga to create a magnetic field for holding the material in the substrate in order to better retain the material in the mesh-like substrate.

10. Claims 24 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsunaga in view of Wefers et al.

Matsunaga teaches all that is claimed, as in the above rejection of claims 11, 22, and 25-26, except that the nozzle may be disposed such that the material does not make contact with the nozzle.

Wefers et al. teaches a device for printing a medium onto a substrate having a mesh-like substrate configured to hold a material and a nozzle to expel a fluid to cause said material to be applied onto said medium in which the nozzle may be disposed such that the material does not make contact with the nozzle. see column 9, lines 14-16 and Fig. 11

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the device of Matsunaga to have a spacing between the nozzle and mesh-like substrate, as taught by Wefers et al., in order to optimize the interaction between the fluid expelled by the nozzle and the material held by the substrate.

Response to Arguments

11. Applicant's arguments with respect to claims 1-3, 5-6 and 8-38 have been fully considered but they are not persuasive.

In response to applicant's arguments regarding claims 1 and 12, applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

In response to applicant's arguments regarding claims 5 and 13, with respect to the conflict between the terms 'scraper' and 'squeegee', applicant argues that a scraper

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is an instrument suitable for removing a paste, a powder, a solid or a liquid. Wefers et al. teaches "a device and a method for applying a medium in liquid, powder or paste form to a substrate", see column 3, lines 56-58, and squeegees, 7, "set such that excess medium is taken off the transport device 1 and falls back into the container 8". Therefore, while Wefers et al. uses the term, 'squeegee' rather than applicant's term 'scraper', the device, 7, performs the same function as the scraper claimed by applicant and therefore satisfies the teaching of the claimed limitation.

In response to applicant's argument that different embodiments of Wefers et al. have been used to make the rejection, there is no indication in the reference that the claimed elements of Figure 1 are not present in the embodiment of Figure 11. In fact, from the drawing all of the elements rejected using the description of Figure 1 appear to be present in the embodiment of Figure 11 as well.

In response to applicant's arguments with respect to claim 22, that the objectives of Matsunaga differ from those of the applicant, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). In this case, the device of Matsunaga meets all of the limitations claimed by the applicant.

In response to applicant's argument that is improper to modify the teachings of Wefers et al. with the teachings of Matsunaga because Matsunaga does not teach the

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use of a solid or powder as a medium, Wefers et al. teaches a device that is suitable for use in applying a medium in liquid, powder, or paste form, with every indication that the structure described is suitable for each of these types of medium, rather than merely for liquids as applicant suggests. Therefore, one having ordinary skill in the art would recognize the advantages of modifying the invention of Wefers et al. based on the teachings of Matsunaga because they are both configured to use a liquid medium, and the use of a solid with the invention of Wefers et al. does not appear to require any significant modifications of the invention.

In response to applicant's argument that Matsunaga's process relies upon a surplus of material, this issue is not recited as part of the claimed subject matter and therefore not relevant to the suitability of the rejection.

In response to applicant's argument that Fujii teaches away from the processes of the claims because it is a wet-type recording technique, the claims do not exclude a wet-type recording technique, the material used is not positively recited as a part of the claim and therefore the combination of references do not teach away from the claimed invention.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill E. Culler whose telephone number is (571) 272-2159. The examiner can normally be reached on M-Th 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jec



ANDREW H. HIRSHFELD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800